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10/764,172

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EXAMINER

PENDLETON, DIONNE

ART UNIT

PAPER NUMBER

2627

MAIL DATE

DELIVERY MODE

10/10/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/764,172

Applicant(s)

SUPRAPMO ET AL.

Examiner

Dionne H. Pendleton

Art Unit

2627

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 June 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-45 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 7, 9, 11, 12, 14, 16-19, 21, 22, 24-27, 29, 30, 34-39 and 41-45 is/are rejected.
- 7) ☒ Claim(s) 6, 8, 10, 13, 15, 20, 23, 31-33, 38 and 40 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 1/23/2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

1. **Claims 17-19,24 and 41** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 17-19 and 41,

The above cited claims, *as well as any claims dependent thereon*, recite that “the enclosure comprises four mutually perpendicular side walls, the...side walls being extended to form the intermediate column.”

According to *page 6* of the Applicant's specification, it is the *extension*, **NOT the enclosure** as recited in the claim, which comprises four mutually perpendicular side walls being extended to form the intermediate column. Furthermore, it is unclear to the Examiner, how the perpendicular side walls may be extended so as to form an “intermediate” column, rather than an “outer” column. Correction and Clarification are required.

Examiner's Note: Claim 24 is rejected to due to its' dependency upon rejected base claim 18.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-5, 7,11,12,14,21,27,29,30,35 and 38 are rejected under 35 U.S.C. 102(b) as being anticipated by Shaper (US 3,327,808).

Regarding claim 1, in figure 3, Shaper teaches a speaker comprising: an enclosure (*defined as the area existing between partition 42 and the front of loudspeaker 32*) with at least one wall 42;

an acoustic driver 32 attached to a front wall of the enclosure;

an acoustic extension (*see cylinders 33, 36 as well as the portion of cylinder 39 interposed between partition 42 and top cover 41*) being mounted to the enclosure;

the extension being external of the enclosure, and operatively connected to the interior of the enclosure.

Regarding claim 2, Shaper teaches that the acoustic extension 33,36,39 defines a serpentine passage (*see, the air passage defined by the windows 34,37 and 40*) operatively connected to the interior of the enclosure.

Regarding claim 3, Shaper teaches that a cylinder of the acoustic extension 33 is mounted in an opening in a rear wall of the enclosure and is generally coaxial with the acoustic driver.

Regarding claim 4, Shaper teaches a central stem **33**, a plurality of columns **36,39** each being generally concentric with the central stem **33**; the plurality of columns being mounted to an outer wall (see the wall to which cover **41** is attached), and an inner wall (wall **42** also serves to provide an inner wall for the extension) in an alternating and opposed manner to define there between an airflow passage operatively connected to the central stem and the interior.

Regarding claim 5, Shaper teaches an inner column **36** mounted to the outer wall (see the wall to which cover **41** is attached), and extending towards the inner wall (provided by article **42**), there being an air gap **37** between a free end of the inner column **36** and the inner wall **42**.

Regarding claim 7, Shaper teaches that the plurality of columns comprises an outer column **36**, which lies outside of central stem **33**, and is mounted to the outer wall (see the wall to which cover **41** is attached), and extending towards the inner wall **42**, there being an outlet air gap **36a** between the outer column and inner wall (*see that outlet air gap 36a serves to allow the flow of air out of window 34 and into space 38*).

Regarding claims 11 and 12, Shaper teaches the acoustic extension **33** mounted in an opening in a rear wall of the enclosure (*defined as the area existing between partition 42 and the front of loudspeaker 32*) and is generally coaxial with the acoustic driver.

Regarding claim 14, Shaper teaches that the central portion **33** of the acoustic extension is mounted in an opening in a rear wall of the enclosure, wherein the enclosure is defined as the area existing between partition **42** and the front of

loudspeaker **32**, and further wherein the extension is generally co-axial with the acoustic driver **32**.

Regarding claim 21, Shaper teaches that the central stem **33** defines an air volume, the air volume and airflow passage being of a constant acoustic area.

Regarding claim 27, Shaper teaches that the central portion **33** of acoustic extension is a non-electrically driven surface which shares the same airspace as the loudspeaker **32**, i.e., a passive radiator, thereby reading on “selected from the group consisting of: a bass reflex port, a tuned port, a passive radiator, and a concentric loading”, as claimed.

Regarding claim 29, Shaper teaches an acoustic extension comprising:

A central stem **33**;

a plurality of columns **36,39** generally concentric with the stem;

the plurality of columns being mounted to an outer wall (see the wall to which cover **41** is attached), and an inner wall (wall **42** provides an inner wall for the extension) in an alternating and opposed manner to define there between an airflow passage operatively connected to the central stem and the interior.

Regarding claim 30, Shaper teaches an inner column **36** mounted to the outer wall (see the wall to which cover **41** is attached), and extending towards the inner wall **42**, there being an air gap **37** between a free end of the inner column and the inner wall.

Regarding claim 35, Shaper teaches that the central stem **33** defines an air volume, the air volume and airflow passage being of a constant acoustic area.

Regarding claim 38, Shaper teaches that the central portion **33** of acoustic extension is a non-electrically driven surface which shares the same airspace as the loudspeaker **32**, i.e., a passive radiator, thereby reading on “selected from the group consisting of: a bass reflex port, a tuned port, “a passive radiator”, and a concentric loading”, as claimed.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. **Claim 9** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Shaper (US 3,327,808)**.

Regarding claim 9,

Shaper teaches the invention of claim 7.

Shaper does not specifically teach that the outlet air gap faces towards the enclosure. However, it would have been obvious for one of ordinary skill in the art at the time of the invention to reconfigure the enclosure of Shaper such that curved air ports are substituted for the air apertures, thereby providing air outlets which face towards the enclosure, as an alternative design choice.

Art Unit: 2627

4. **Claim 22** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Shaper (US 3,327,808)** in view of **Button (US 5,533,132)**.

Regarding claim 22,

SHAPER teaches the invention of claim 1.

SHAPER does not clearly teach that the enclosure and frame are made of heat conductive material.

BUTTON teaches, in **column 2, lines 38-47**, the construction of a loudspeaker assembly wherein the enclosure and speaker frame are constructed from thermally conductive metal such as die-cast aluminum.

It would have been obvious for one of ordinary skill in the art at the time of the invention to alter the invention of Shaper per the teachings of Button, substituting an enclosure and speaker frame constructed from heat conductive material such as die-cast aluminum, since said material is light in weight and the heat conductivity of the material provides a means for dissipating heat generated by the driver.

5. **Claims 16 and 34** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Shaper (US 3,327,808)** in view of **Takenaka (US 6,078,676)**.

Regarding claims 16 and 34,

SHAPER teaches the invention of claims 4 and 30.

SHAPER does not clearly teach that the junctions between columns are curved.

TAKENAKA teaches in **column 2, lines 46-51**, a sound passage provided with smooth curves. It would have been obvious for one of ordinary skill in the art at the time

of the invention to combine the teachings of Shaper and Takenaka, providing a smoothly curved juncture between passages, thus avoiding deterioration in sound quality due to undesired resonance and also decreasing the degree of turbulent air current.

6. **Claims 25,26,36 and 37** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Shaper (US 3,327,808)** in view of **Tanaka (US 5,025,474)**.

Regarding claims 25,26,36 and 37,

SHAPER teaches the invention of claims 1,4 and 29.

SHAPER does not clearly teach that the stem portion of the acoustic extension (33) is adjustable relative to the enclosure. Nor does Shaper teach that the stem portion is removably attached.

However, in **column 10, lines 12-15**, TANAKA teaches an embodiment, **Figure 12b**, wherein a port tube extension **15b** is adjustable via screw threading; and in **column 10, lines 63-65**, Tanaka further teaches that the port tube is removable. It would have been obvious for one of ordinary skill in the art at the time of the invention to combine the teachings of Shaper and Tanaka, substituting a screw threading connection between the cylinder **33** and driver enclosure **42** in the Shaper reference, as said connection allows for variable frequency characteristics (see, the Tanaka reference).

7. **Claims 39, 41, 42 and 45** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Poling (US 7,039,212)** in view of **Button (US 5,533,132)**.

Regarding claim 39, figure 3 of POLING teaches an enclosure **301** with at least one wall; an acoustic driver **302** in a front wall of the enclosure; an acoustic extension **308** external of the enclosure, as claimed; the acoustic extension **308** having an outlet air gap **311** facing towards the enclosure to pass air over the enclosure.

Poling does not clearly teach that the enclosure and frame are made of heat conductive material.

BUTTON teaches, in **column 2, lines 38-47**, the construction of a loudspeaker assembly wherein the enclosure and speaker frame are constructed from thermally conductive metal such as die-cast aluminum.

It would have been obvious for one of ordinary skill in the art at the time of the invention to alter the invention of Poling per the teachings of Button, providing an enclosure and speaker frame constructed from heat conductive material such as die-cast aluminum, since said material is light in weight and the heat conductivity of the material provides a means for dissipating heat generated by the driver.

Regarding claim 41, as best understood with regard to the USC. 112 second paragraph rejection above, Poling teaches that the enclosure comprises four mutually perpendicular side walls, the side walls being extended to comprise the intermediate column.

Regarding claim 42, Poling teaches an outer column (see the column defined by distance **D4** in **Figure 3**) extending forward toward a plane of the front wall.

Regarding claim 45, Poling teaches that the acoustic extension is selected from the group consisting of; a bass reflex port, a tuned port, a passive radiator, and a concentric loading.

8. **Claims 43 and 44** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Poling (US 7,039,212)** in view of **Button (US 5,533,132)**, as applied to claim 39, and further in view of **Tanaka (US 5,025,474)**.

Regarding claims 43 and 44,

The combination of Poling and Button teaches the invention of claim 39.

The combination does not clearly teach that the acoustic extension **33** is adjustable relative to the enclosure. The combination also fails to teach that the extension is removably attached.

However, in **column 10, lines 12-15**, TANAKA teaches an embodiment, in **Figure 12b**, wherein a port tube extension **15b** is adjustable via screw threading; and in **column 10, lines 63-65**, Tanaka further teaches that the port tube is removable. It would have been obvious for one of ordinary skill in the art at the time of the invention to combine the teachings of Poling, Button and Tanaka, substituting a screw threading connection between the extension **308** and driver enclosure **301** in the Poling reference, as said connection allows for variable frequency characteristics (see, the Tanaka reference).

Allowable Subject Matter

9. Claims 6,8,28,31-33 and 40 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Claims 10,13,15,20 and 23 are objected to due to their dependency upon objected to base claims.

Response to Arguments

Applicant's arguments filed 6/25/2007 have been fully considered but they are not persuasive.

10. With Regard to Applicant's argument that **"The Acoustic Extension Of SHAPER Is Part Of The Speaker System And Is Not Mountable"**:

The Examiner assumes that the Applicant is arguing the appropriateness of relying upon the extension (33) of SHAPER, considering that the said extension (33) is further enclosed by an outer wall defining aperture (40).

However, The extension (33) of SHAPER, as illustrated in **Figure 3**, is clearly *externally mounted* to a speaker enclosure, said speaker enclosure being defined by outer wall (39) and horizontal wall (42). Accordingly, although the extension (33) is part of a larger speaker system, said extension successfully and fairly corresponds to acoustic extension (33) of the claim, which is described as being external of the [speaker] enclosure and further being operatively connected to the interior of the [speaker] enclosure. The rejection is therefore maintained.

11. With Regard to Applicant's argument that "**There Is No Teaching Or Suggestion In SHAPER To Separate An Acoustic Extension From A Main Enclosure**":

As the argument pertains to **Claims 1-5, 7,11,12,14,21,27,29,30,35 and 38,**

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., a **removably attached extension**) are not recited in the rejected claim(s).

Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

As the argument pertains to **Claims 25,26,36 and 37,**

These claims are found unpatentable in view of the combined teachings of SHAPER and TANAKA. These claims were not found to be anticipated by the teachings of SHAPER, alone.

More specifically, this limitation was found unpatentable in view of the teachings of TANAKA. The Applicant has failed address the specific teachings of TANAKA. Therefore, the combination of the prior art relied by upon by the Examiner is maintained.

12. With Regard to Applicant's argument that "**The Examiner Submits Figure 3 Of BUTTON And The Related Disclosure Teaches Most Of The Features Of Claim 39**":

Claim 39 is found unpatentable in view of the combined teachings of POLING in view of BUTTON. More specifically, the Examiner relies upon the disclosure of POLING, **not** Button, as teaching most of the features of the claim.

13. With Regard to Applicant's argument that **"Claim 39 Requires The Acoustic Extension Be Mounted To The Enclosure Externally, And Not Just Located At An External Portion Of The Enclosure As Shown In Figure 3 Of BUTTON":**

The Applicant erroneously states that the Examiner has relied upon **Figure 3** of BUTTON. The Examiner, instead, relied upon **Figure 3** of the POLING, reference.

Lines 4-6 of claim 39 recite "an acoustic extension being mounted to the enclosure externally of the enclosure." As broadly written, the "external" recitation appears to merely describe the positional relationship between the acoustic extension and enclosure. The rejection is therefore maintained.

14. With Regard to Applicant's argument that **"BUTTON Fails To Teach Or Suggest...Separating The Acoustic Extension From The Main Enclosure; And Reattaching Or Remounting The Acoustic Extension"**

As the argument pertains to **Claims 39,41 and 45,**

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., a ***removeably attached extension***) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the

specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

As the argument pertains to **Claims 43 and 44**,

These claims, are found unpatentable in view of the combined teachings of POLING, BUTTON and TANAKA. These claims were not found to be unpatentable in view of BUTTON, alone.

More specifically, this limitation was found unpatentable in view of the teachings of TANAKA. The Applicant has failed address the specific teachings of TANAKA. Therefore, the combination of the prior art relied by upon by the Examiner is maintained.

Conclusion

15. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

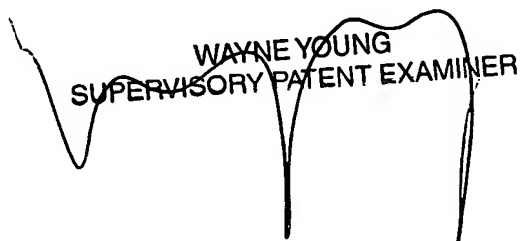
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dionne H. Pendleton whose telephone number is 571-272-7497. The examiner can normally be reached on 10:30-7:00 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wayne Young can be reached on 571-272-7582. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Dionne Pendleton


WAYNE YOUNG
SUPERVISORY PATENT EXAMINER